

# ProSafe® 24- and 48-port 10/100 L3 Managed Stackable Switch with 4 Gigabit Ports FSM7328S, FSM7352S

Data Sheet



# Flexible, Stackable, Fast Ethernet Switching!

NETGEAR's low-cost, stackable, Fast Ethernet switches deliver maximum throughput and flexibility where you need it — to high-density workgroups at the edge of the network, or in the backbone of small networks. The ProSafe FSM7328S and FSM7352S are managed 24-port and 48-port switches with auto-sensing 10/100 ports and four 10/100/1000 ports. This enables fiber connectivity through four hot-swappable small form-factor pluggable (SFP) Gigabit interfaces. The non-blocking design of the switches delivers simultaneous, full wire-speed, low-latency throughput to all ports. In addition, their 1U rack-mount form factor uses less rack space and provides a lower per-port cost than comparable Fast Ethernet switches.

Dynamic Layer 3 switching ensures reliable routing between VLANs and network segmentation where and when you need it, at no additional cost. Plus, convenient front-panel stacking via standard Gigabit Ethernet interfaces provides expandability to meet your growing network's needs.

Robust security features include IEEE 802.1x port-based authentication and access control lists, ensuring that only authorized users can access your network. Secure management of the switches is available through Secure Sockets Layer (SSLv3) for the Web GUI and Secure Shell (SSH) for command-line sessions. Additionally, multiple switches can be securely managed via SNMPv3 with NETGEAR's ProSafe Network Management Software NMS100. For workgroup deployments in cost-sensitive organizations that require layer 3 switching, the flexibility of stacking and additional Gigabit capability, NETGEAR's ProSafe 10/100 Layer 3 Stackable switches deliver the ideal access-edge solution.

#### **Powerful**

In desktop switching environments, wire-speed performance with full QoS control for all 10/100 interfaces is critical. The 4 Gigabit Ethernet combo interfaces provide unprecedented flexibility, whether you are stacking between switches, attaching bandwidth-thirsty file servers, or aggregating critical data to the core of your network.

## Easy-to-use

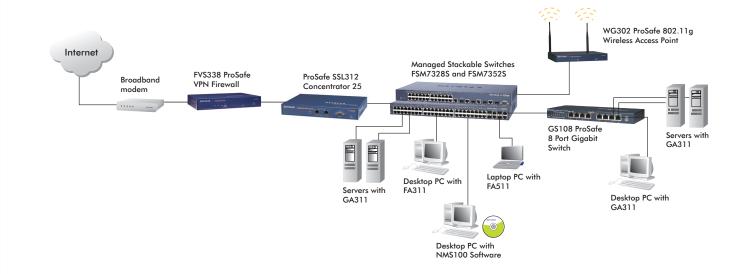
Simplify and reduce IT staff workload and mean time to repair with intuitive, GUI-based device configuration, and an industry-standard command-line interface (CLI). New front-panel stacking capabilities allow you to build a single-IP manageable device with up to eight switches utilizing standard copper or fiber Gigabit Ethernet interfaces and cables. Dynamic RIPv1/v2 standards-based routing protocols ensure ease of setup, and eliminate the need to maintain static routing tables, reducing ongoing maintenance costs.

# **Outstanding Value**

With their high-value price point, flexible design, and reduced maintenance requirements, NETGEAR's ProSafe 10/100 Layer 3 Stackable Switch solutions yield a high return on investment, and are ideal for delivering highly reliable, converged voice, video, and data services over a single network infrastructure.







#### **Technical Specifications**

# Network Protocol and Standards Compatibility

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX
- IEEE 802.3z 1000BASE-SX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3x flow control

#### Layer 2 Services

- IEEE 802.1Q static VLAN (up to 512)
- IEEE 802.1p Class of Service (CoS)
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1v protocol VLAN & port VLAN
- IEEE 802.1w Rapid Spanning Tree Protocol
- IEEE 802.1s Multiple Spanning Tree Protocol
- IEEE 802.3ad link aggregation (LACP)
- IEEE 802.1x port access authentication
- IGMP v1, v2, v3 snooping support
- Network storm protection, including broadcast, multicast and unicast traffic
- Static multicast filtering
- Port locking
- Ingress rate limit in 1Kbps increments
- GARP/GVRP/GMRP

# Layer 3 Services

- VLAN routing
- Port-based routing
- RIP v1/v2 (RFC 1058, 2453)
- Access control lists MAC, IP, TCP
- ACLs 1,024 global
- COS
- DiffServ QoS (RFC 2998)
- DNS caching
- DHCP/BOOTP relay primary and backup (RFC3046, option 82)

# Switch Management Specifications

- SNMP v1, v2c, v3 with multiple IP addresses
- RFC 1157, 1901-1910, 2574, 2575
- RFC 768 UDP
- UDP relay
- RFC 854-859 telnet
- RFC 951 BOOTP
- RFC 1027 Proxy ARP
- RFC 1213 MIB II
- RFC 1757 RMON groups 1,2,3, and 9
- RFC 1215 SNMP traps
- RFC 1493 bridge MIB
- RFC 1643 Ethernet interface MIB
- RFC 1534 DHCP and BOOTP interoperation
- RFC 2030 Simple Network Time Protocol (SNTP)
- RFC 2131, 2132 DHCP and BOOTP
- DHCP relay (with backup servers)
- RFC 2236 IGMP v2
- RFC 2865 RADIUS (both switch and management access)
- RFC 2866 RADIUS accounting
- RFC 3376 IGMP v3
- Private enterprise MIB
- Port mirroring support (many-to-one)
- IGMP querier
- GARP/GVRP/GMRP
- SYSLOG
- Firmware upgrade via TFTP or HTTP
- Port description
- RFC 1519 CIDR
- Proxy ARP
- DNS lookup

# Single IP Address Management (firmware version 7.3 or higher)

- Manage up to 48 fully managed switches
- Feature can be used with the following models:
  - FSM726E, FSM7226RS, FSM7250RS
- FSM7328S, FSM7352S, FSM7328PS, FSM7352PS
- GSM7224R, GSM7248R
- GSM7328S, GSM7328FS, GSM7352S

#### User Interfaces

- Command-line interface (CLI) via console port
- Web-based management via embedded HTTP server protected with Secured Sockets Layer
- (SSLv3) or Transport Layer Security (TLS v1)
- Telnet remote login (5 sessions) securable with Secure Shell (SSH v1.5, v2)

#### • LEDs

- Per port: Speed, link, activity
- Per device: Power, fan status, stack
   ID, master

# Physical Interfaces

- 24 or 48 RJ-45 connectors for 10BASE-T, 100BASE-TX (Auto Uplink and auto negotiate on all ports)
- 4 1000Base-T with optional SFP connectors for fiber connection
- RS-232 console port

#### Performance Specifications

- Forwarding modes: Store and forward
- Bandwidth:
  - FSM7328S: 12.8 Gbps; 8.5 MppsFSM7352S: 17.6 Gbps; 13 Mpps
- Switch latency: Less than 80 microseconds for 64-byte frames
- System memory: 128 MB
- Packet buffer memory: 32 MB
- Code storage (flash): 16 MB
- Address database size: 16,384 media access control
- (MAC) addresses
- Number of VLANs: 512 (1-4096)
- Number of trunks: 6Number of queues: 8Number of routes: 128
- Jumbo frame support: up to 9K packet size

# Electrical Specifications

- Power consumption:
  - FSM7328S 32W
  - FSM7352S 36W
- 100-240V AC/50-60 Hz universal input

## Physical Specifications

#### FSM7328S

- Dimensions (w x d x h): 440 x 205 x 43 mm (17.32 x 8.1 x 1.7 in)
- Weight: 3.2 kg (7.0 lb)
- Acoustic noise: (ANSI-S10.12) 37.5 dB
- Heat dissipation: 118 Btu/hr
- Mean time between failures (MTBF):
   125,500 hours (~14.3 years)

#### FSM7352S

- Dimensions (w x d x h): 440 x 257 x 43 mm (17.32 x 10.1 x 1.7 in)
- Weight: 3.2 kg (7.0 lb)
- Acoustic noise: (ANSI-S10.12) 37.6 dB
- Heat dissipation: 160 Btu/hr
- Mean time between failures (MTBF):
   117,747 hours (~13.4 years)

#### Environmental Specifications

- Operating temperature: 0° to 50° C (32° to 13° F)
- Storage temperature: -20° to 70° C
   (-4° to 158° F)
- Operating humidity: 90% maximum relative humidity, non-condensing
- Storage humidity: 95% maximum relative humidity, non-condensing
- Operating altitude: 10,000 ft (3,000 m) maximum
- Storage altitude: 10,000 ft (3,000 m) maximum

# Electromagnetic Emissions

- CE mark, commercial
- FCC Part 15 Class A
- VCCI Class A
- EN 55022 (CISPR 22), Class A
- C-Tick

#### Electromagnetic Immunity

- EN 50082-1, EN 55024

#### Safety

- CE mark, commercial
- CSA certified (CSA 22.2 #950)
- UL listed (UL 1950)
- CUL IEC 950
- EN 60950

# Warranty

- NETGEAR Lifetime Warranty<sup>†</sup>

#### **Package Contents**

- ProSafe L3 Managed Switch (FSM7328S or FSM7352S)
- Power cable
- Null modem cable
- Rubber footpads for tabletop installation
- Rack-mount kit
- Installation guide
- Resource CD-ROM with user manual
- ProSafe NMS100 30-Day Trial CD-ROM
- Warranty/support information card

#### **NETGEAR Related Products**

- 1000BASE-SX SFP GBIC (AGM731F)
- 1000BASE-LX SPF GBIC (AGM732F)
- NM\$100 Network Management Software

# ProSupport Service Packs Available

# OnCall 24x7, Category 2

- PMB0332

# XPressHW, Category 2

- PRR0332-100

# **Ordering Information**

#### FSM7328S

- North America: FSM7328SNA

Europe: FSM7328SEUAsia: FSM7328SAUJapan: FSM7328SJP

#### • FSM7352S

- North America: FSM7352SNA

Europe: FSM7352SEUAsia: FSM7352SAUJapan: FSM7352SJP

# **NETGEAR®**

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\*Basic technical support provided for 90 days from date of purchase.

 $^{\dagger}$ Lifetime warranty for product purchased after 05/01/2007. For product purchased before 05/01/2007, warranty is 5 years.